REMARKS

Claims 1-23 were originally filed in the present application.

Claims 1-23 are pending in the present application.

Claims 1-23 were rejected in the January 15, 2008 Office Action.

No claims have been allowed.

No claims are amended herein.

Claims 1-23 remain in the present application.

The Applicants respectfully request reconsideration of the claims in light of the following argument, which the Applicants make to more clearly define the issues for appeal.

In Section 1 of the January 15, 2008 Office Action, the Examiner rejected Claims 1, 3-8, 10, 12-17, 19, 21-23 under 35 U.S.C. §102(e) as being anticipated by U. S. Patent Application Publication No. 2003/0103450 to *Chapman, et al.* (hereinafter, simply "Chapman"). The Applicants respectfully traverse the rejection.

Initially, the Applicants note that without objecting to the claim language "capable of" in Claims 1, 3, 10, 12 and 21, the Examiner suggests that such claim language does not require steps to be performed nor limit the claims to a particular structure.

The Examiner justifies suggesting this purported shortcoming in the cited "capable of" limitations by misapplying the decision in *In re Hutchison*, 154 F.2d 135 (CCPA 1946). In *Hutchinson*, the court did not consider the preamble phrase "adapted for use in the fabrication of a metal template or the like" to "constitute a limitation in any patentable sense." In contrast, the

"capable of" limitation in the present application imposes a capability requirement on the recited switch fabric and packet processing circuitry of the recited plurality of routing nodes. First, the switch fabric must be able to detect the output bandwidth of one of its outputs and, in response, cause a change in operation of one of the routing nodes. Second, the packet processing circuitry of the routing nodes must be able to transmit and receive data packets both to and from external devices and to and from other routing nodes via the switch fabric.

The Examiner is invited to consider the non-precedential BPAI decision in *Ex parte Prall*, Appeal No. 2003-1556, which may be found at www.uspto.gov/web/offices/dcom/bpai/decisions/fd031556.pdf. While the limitation at issue in *Hutchinson* was in the preamble and merely recited an intended use, the limitation at issue in *Prall* imposed a capability requirement on the respective claim element – like that in the current application.

Moreover, the determination of whether clauses such as "capable of" (or "adapted to/for," or "wherein/whereby") are a limitation in a claim is not subject to a *per se* rule, but instead depends on the specific facts of the case. MPEP § 2111.04, page 2100-46 (8th ed., rev. 6, September 2007). When such a clause states a condition that is material to patentability, the clause cannot be ignored in order to change the substance of the invention. *Id.* In the present application, the Applicants respectfully submit that the claim language "capable of" clearly introduces a capability requirement and states a condition that is material to patentability.

Independent Claim 1 recites a router that includes a switch fabric and a plurality of routing nodes. The switch fabric has two limitations. First, the switch fabric is able to detect that the output bandwidth of a first of its outputs has been exceeded. Second, the switch fabric is able to cause a routing node to slow its rate of inputting data packets to the switch fabric. The Applicants respectfully submit that Chapman fails to disclose such a switch fabric.

In rejecting Claim 1, the Examiner asserts that Chapman describes the first limitation above at paragraph [0115], lines 37-41, "The program element then determines the output rate of the queue at step 508 and, at step 510, compares this measured value to the queue's minimum and maximum allocated bandwidth values, as found stored in a configuration table in the memory 310." The cited passage describes steps of the flowchart of Figure 5., which an earlier passage in paragraph [0115] clarifies illustrates the operation of the interface 202, which describes a routing node in the Examiner's reading of Chapman. *See Chapman, paragraph [0115], lines 1-5, and Office Action mailed January 15, 2008, page 2, last paragraph.* As such, the passage relied upon by the Examiner describes the operation of a 'routing node,' not of the switch fabric.

In response to this argument, the Examiner asserts that the fabric controller 208 of Chapman controls release of packets from the interfaces to the switch fabric and provides for traffic scheduling and coordination within the switch fabric, citing paragraphs [0113] and [0093]. The Examiner further asserts that paragraph [0097] teaches that "[t]he bandwidth control system structurally includes the switch fabric controller, the plurality of input port controllers and, for each logical pathway established in the switch fabric, at least one virtual queue set up in the local memory of the

corresponding input port." This leads the Examiner to argue that, as the fabric controller would be considered as an entity with the switch fabric, Chapman teaches that the switch fabric performs traffic control by detecting the allocated output bandwidth has been exceeded and then causing the input rate to slow down. The Applicants respectfully submit that a closer reading of Chapman reveals that the reference describes a very different device than that recited in Claim 1.

Other passages from Chapman explain the bandwidth control system in more detail:

> Since traffic for a particular outgoing link may arrive from any one of the switch's input ports, using different logical pathways within the switch fabric, the bandwidth usage regulation for an outgoing link is actually applied to each logical pathway established in the switch fabric which terminates at the output port for the particular outgoing link. *Chapman, paragraph [0096], lines 3-9.*
>
> From a functional point of view, the bandwidth control system includes a collection of bandwidth control mechanisms independent from one another, each associated with a particular logical pathway that can be established within the switch fabric. Each separate control mechanism is responsible for the bandwidth usage regulation on its associated logical pathway, *Chapman, paragraph [0097], lines 5-12.*
>
> [T]he memory [310, in interface 202,] contains a static configuration table of egress bandwidth allocation referenced by the processor 308 during program execution. *Chapman, paragraph [0102], lines 19-22.*
>
> The memory 310 also supports the creation of queues, such queues constituting an integral component of the router's bandwidth control system. Based on the contents of a mapping table also held in memory, the processor 308 will dynamically create virtual queues within memory for the traffic for each particular class traveling through the switch fabric on a different logical pathway towards a particular output port. *Chapman, paragraph [0103], lines 1-8.*
>
> The allocated bandwidth values for the different logical pathways are settings stored in a configuration table within the memory 310. FIG. 4 shows the configuration table for this example, where the bandwidth available on the outgoing link at output port E has been distributed between, and allocated to, the three logical pathways which connect output port E to the router's three input ports. *Chapman, paragraph [0107], lines 1-7.*

Port	Minimum Bandwidth	Maximum Bandwidth
A	1 Mb/s	5 Mb/s
B	3 Mb/s	10 Mb/s
C	5 Mb/s	10 Mb/s

Figure 4

The program element then determines the output rate of the queue at step 508 and, at step 510, compares this measured value to the queue's minimum and maximum allocated bandwidth values, as found stored in a configuration table in the memory 310. *Chapman, paragraph [0115], lines 37-41.*

Thus, the Applicants respectfully submit that Chapman teaches a system that controls the bandwidth of a switch fabric output by statically allocating bandwidth to logical pathways that converge upon the output. The interfaces that couple the switch fabric to external devices then independently control their input of packets to the switch fabric so as not to exceed their bandwidth allocation. Such a system detects the bandwidth of individual logical pathways, not their composite effect on the bandwidth of their common switch fabric output. Further, Chapman teaches slowing the rate of packets not in response to the composite bandwidth at the switch fabric, as recited in Claim 1, but rather in response to an individual bandwidth of a single logical pathway.

For at least these reasons, independent Claim 1 is patentable over Chapman. Independent Claims 10 and 19 include analogous limitations to the novel and non-obvious limitations emphasized in traversing the rejection of Claim 1. As such, independent Claims 10 and 19 also are patentable over Chapman. Claims 3-8, 12-17 and 21-23 depend from Claims 1, 10 and 19, respectively, and

include all the limitations of their respective base claims. Therefore, Claims 3-8, 12-17 and 21-23 also are patentable over Chapman.

In Section 2 of the January 15, 2008 Office Action, the Examiner rejected Claims 2, 11 and 20 under 35 U.S.C. §103(a) as being unpatentable over the Chapman reference in view of U. S. Patent Application Publication No. 2004/0179542 to *Murakami, et al.* (hereinafter), simply "Murakami"). In Section 3 of the January 15, 2008 Office Action, the Examiner rejected Claims 9 and 18 under 35 U.S.C. §103(a) as being unpatentable over the Chapman reference in view of U. S. Patent Application Publication No. 2002/0135843 to *Gruia* (hereinafter, simply "Gruia"). The Applicants respectfully traverse the rejections.

As argued in traversing the § 102 rejection of Claims 1, 10 and 19, Chapman fails to describe all the limitations of Claims 1, 10 and 19. The Applicants respectfully submit that Murakami and Gruia do nothing to overcome the shortcomings of Chapman. Claims 2 and 9 depend from Claim1, Claims 11 and 18 depend from Claim 10, and Claim 20 depends from Claim 19, and include all the limitations of their respective base claims. Therefore, Claims 2, 9, 11, 18 and 20 are patentable over Chapman, Murakami, Gruia, and any combination of Chapman, Murakami and Gruia.

The Applicants also disagree with the Examiner's rejections of Claims 1-23 based on additional misdescriptions and/or misapplications of the Chapman, Murakami and Gruia references to at least some of Claims 1-23. However, the Applicants' arguments regarding those other shortcomings of the Chapman, Murakami and Gruia references are moot in view of the Claim 1 arguments above. The Applicants reserve the right to dispute in future Office Action responses the

appropriateness and the applications of the Chapman, Murakami and Gruia references to the claims of the present application, including the right to dispute assertions made by the Examiner in the January 15, 2008 Office Action.

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SUMMARY

For the reasons given above, the Applicants respectfully request reconsideration and allowance of the pending claims and that this application be passed to issue. If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at *jmockler@munckbutrus.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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